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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,154	01/25/2002	Kurt Gross	GR 01 P 0922	2489

7590 01/21/2004

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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,154

Applicant(s)

GROSS ET AL.

Examiner

Alexander O Williams

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Serial Number: 10/057154 Attorney's Docket #: GR01P0922
Filing Date: 1/25/02; claimed foreign priority to 1/25/01

Applicant: Gross et al.

Examiner: Alexander Williams

Applicant's Response, filed 11/7/03 has been acknowledged.

The Declaration filed on 11/7/03 under 37 CFR 1.131 is sufficient to overcome the Huang et al. reference.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baba (Japan Patent # 58-164232) in view of Kondo et al. (Japan Patent # 63-99557).

For example, in claim 1, Baba et al. **(figures 1 to 4)** specifically figure 4 show a carrier **27** and a chip **20** configuration, comprising: a carrier **27** having a metal area

substantially composed of copper; a chip **10** having a rear side metallization layer **25**; a buffer layer **26** configured on said metal area, said buffer layer being substantially composed of nickel; and a connection medium **17** for fixedly connecting said chip to said carrier; said chip being configured, without a chip housing, on said metal area such that only said connecting medium is configured between said rear side metallization layer of said chip and said buffer layer. Baba et al. explicitly fail to show the Ni buffer layer having a thickness between 5 to 10 micrometers.

Kondo et al. is cited for showing a connecting method terminal part and metallic lead in a ceramic substrate. Specifically, Kondo et al. (figures 1 and 2) discloses using a barrier layer **4** consisting of a Ni, a Au layer on a substrate made of ceramic, having the Ni layer having a thickness of about 10 micro-meters for the purpose of reducing content enabling considerable cost savings.

In claim 2, the combination with Kondo et al.'s buffer layer has a thickness between 7 to 9 micrometers.

In claim 7, Kondo et al reference uses carrier includes a plate made of ceramic, said metal area is applied on said plate, and said metal area forms a contact area for said chip.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to use Kondo et al.'s thickness of the Ni layer to modify Baba's Ni layer for the purpose of reducing content enabling considerable cost savings.

Claims 3, 4 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baba (Japan Patent # 58-164232) in view of Kondo et al. (Japan Patent # 63-99557) and further in view of Schneegans et al. (U.S. Patent # 5,901,901).

The combination of Baba and Kondo et al. show the features of the claimed invention as detailed above, but fail to explicitly show the rear side metallization layer is substantially composed of aluminum and the carrier is substantially composed of copper.

Schneegans et al. **(the figure show the structure, but the prior art discusses the claimed structure)** show a carrier and a chip configuration, comprising: a carrier **2** having a metal area essentially composed of copper; a chip **1** having a rear side metallization layer **3** is substantially composed of aluminum; a buffer layer **4** configured on said metal area; and a connection medium **5** for fixedly connecting said chip to said carrier; said chip being configured, without a chip housing, on said metal area such that

Art Unit: 2826

only said connecting medium is configured between said rear side metallization layer of said chip and said buffer layer (see column 1, lines 9-57) for the purpose of reducing content enabling considerable cost savings.

In claims 3 and 4, the combination with Schneegans et al.'s rear side metallization layer 3 is substantially composed of aluminum.

In claim 6, the combination with Schneegans et al.'s uses a carrier that is substantially composed of copper.

Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to use Schneegans et al.'s rear side metal and copper carrier and Kondo et al.'s thickness of the Ni layer to modify Baba et al.'s device for the purpose of reducing content enabling considerable cost savings.

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response

Applicant's arguments filed 11/7/03 have been fully considered, but are moot in view of the new grounds of rejections detailed above.

Field of Search	Date
U.S. Class and subclass: 257/703,700,701,702,676,765,763,766,769,758,771- 773,762 156/278	8/26/02 3/7/03 7/27/03 1/17/04
Foreign Documentation: foreign patents and literature in 257/703,700,701,702,676,765,763,766,769,758,771- 773,762 156/278	8/26/02 3/7/03 7/27/03 1/17/03
Electronic data base(s): U.S. Patents EAST	8/26/02 3/7/03 7/27/03 1/17/04

Art Unit: 2826

Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. Papers should be faxed to Technology Center 2800 via the Technology Center 2800 Fax center located in Crystal Plaza 4-5B15. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 2800 Fax Center number is (703) 308-7722 or 24. Only Papers related to Technology Center 2800 APPLICATIONS SHOULD BE FAXED to the GROUP 2800 FAX CENTER.

Any inquiry concerning this communication or any earlier communication from the examiner should be directed to ***Examiner Alexander Williams*** whose telephone number is **(703) 308-4863**.

Any inquiry of a general nature or relating to the status of this application should be directed to the ***Technology Center 2800 receptionist*** whose telephone number is **(703) 308-0956**.

1/19/04

A handwritten signature in black ink, appearing to read 'Alexander O. Williams', with a long, sweeping flourish extending upwards and to the right.

Primary Examiner
Alexander O. Williams